FIGURE 1A

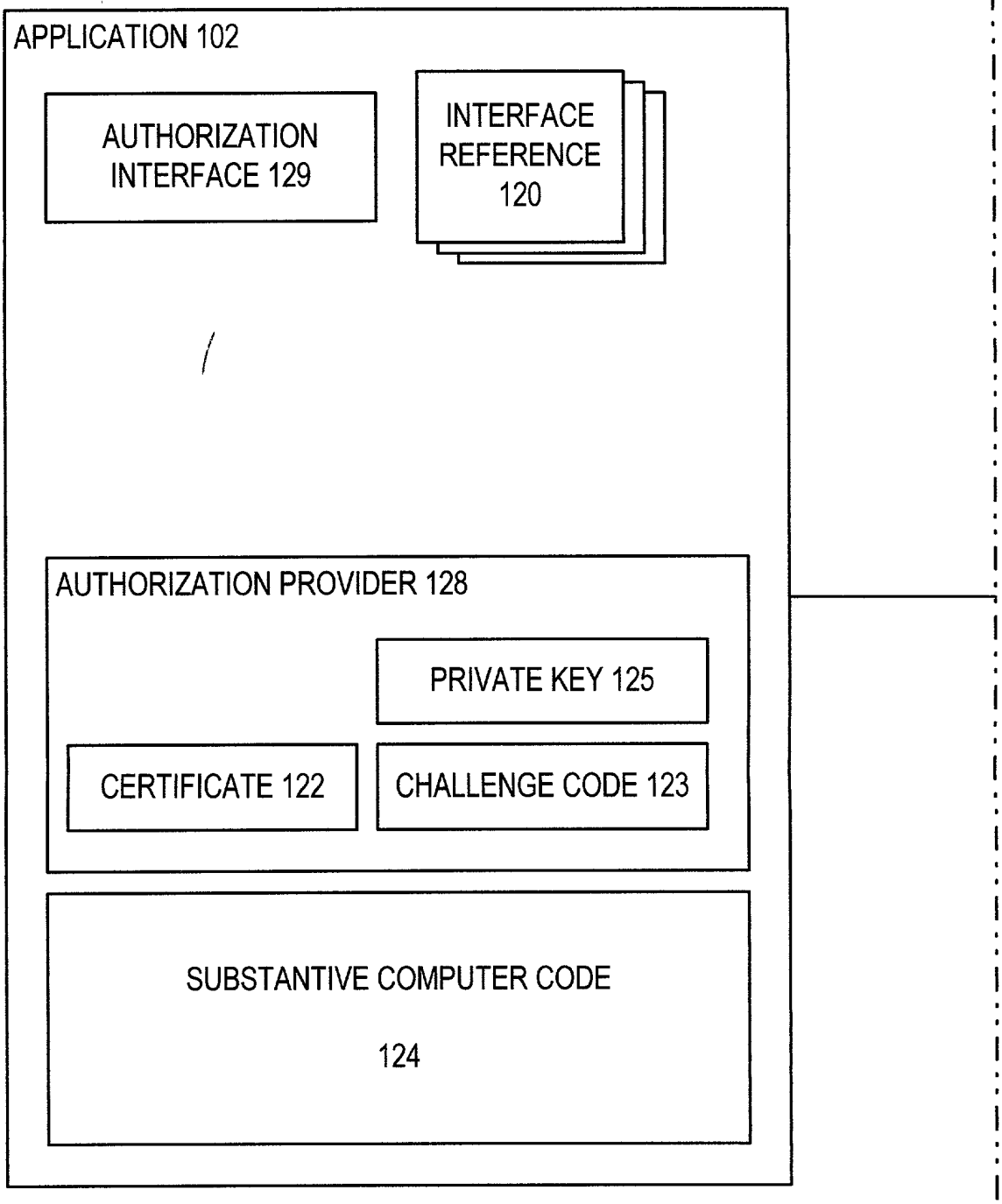
APPLICATION 102
AUTHORIZATION INTERFACE 129
INTERFACE REFERENCE 120
AUTHORIZATION PROVIDER 128
PRIVATE KEY 125
CERTIFICATE 122
CHALLENGE CODE 123
SUBSTANTIVE COMPUTER CODE
124

FIGURE 1B

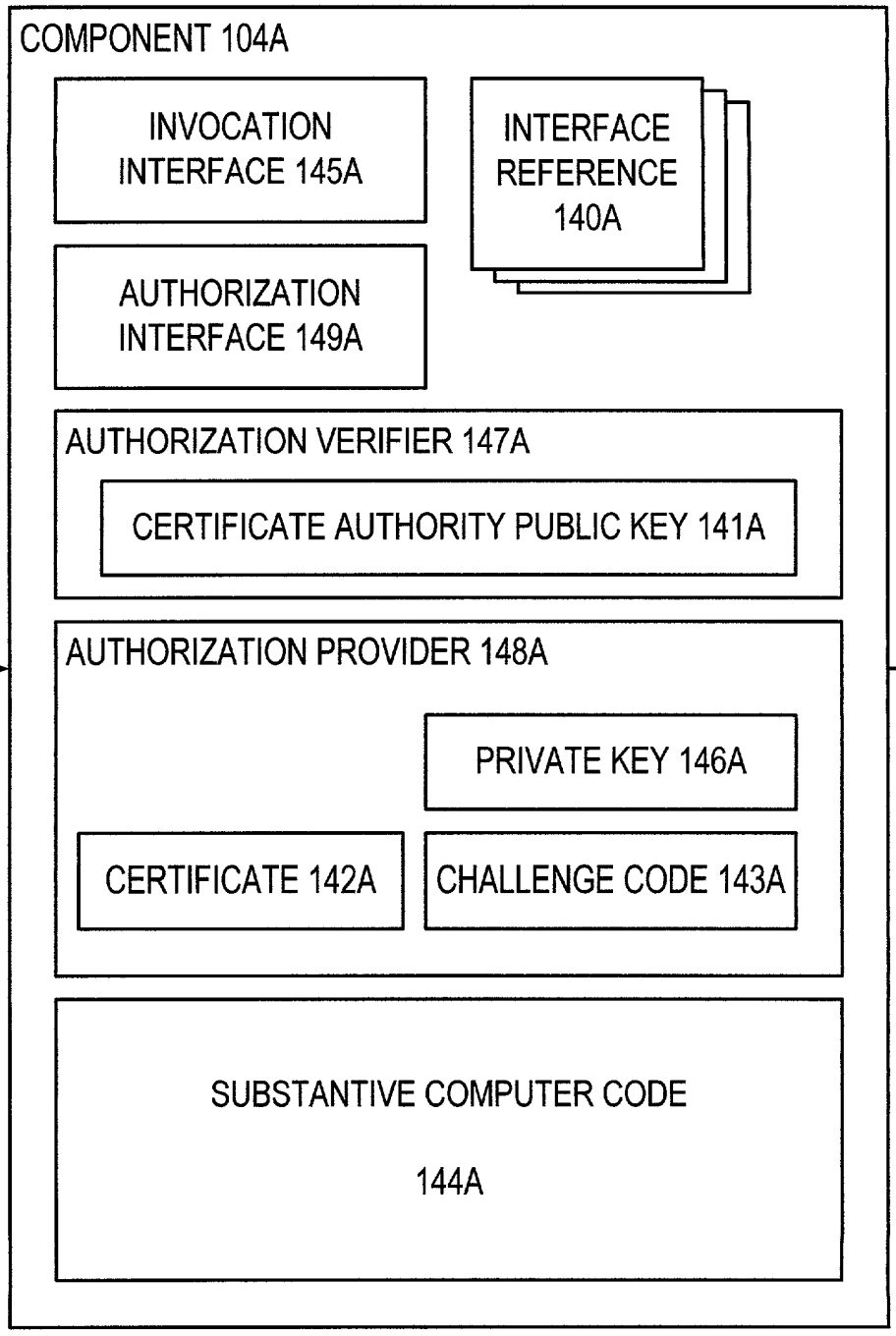
COMPONENT 104A
INVOCATION INTERFACE 145A
INTERFACE REFERENCE 140A
AUTHORIZATION INTERFACE 149A
AUTHORIZATION VERIFIER 147A
CERTIFICATE AUTHORITY PUBLIC KEY 141A
AUTHORIZATION PROVIDER 148A
PRIVATE KEY 146A
CERTIFICATE 142A
CHALLENGE CODE 143A
SUBSTANTIVE COMPUTER CODE
144A

FIGURE 1C

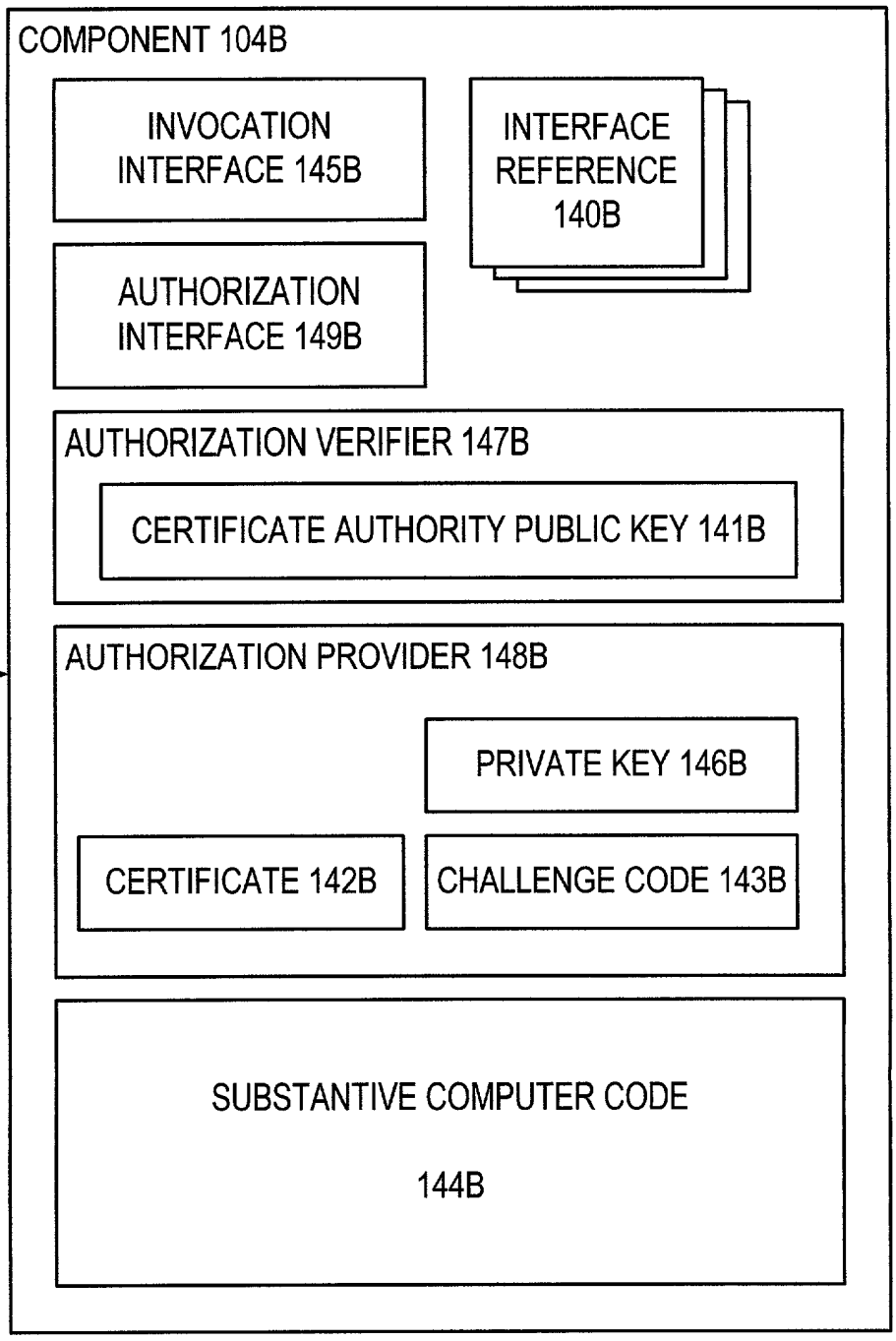

FIGURE 1A	FIGURE 1B	FIGURE 1C

FIGURE 1

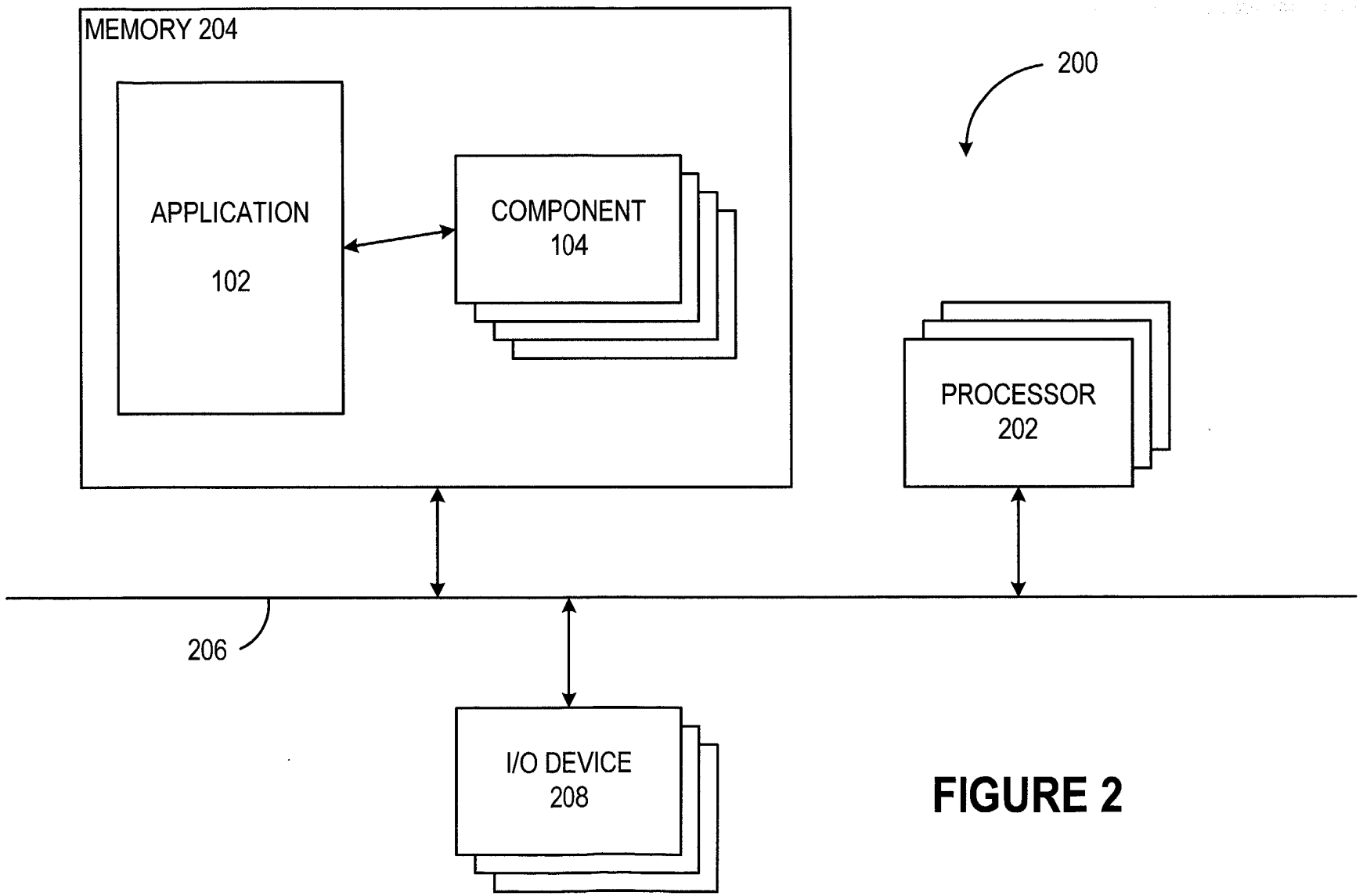
MEMORY 204
APPLICATION
102
COMPONENT
104
200
PROCESSOR
202
206
I/O DEVICE
208

FIGURE 2

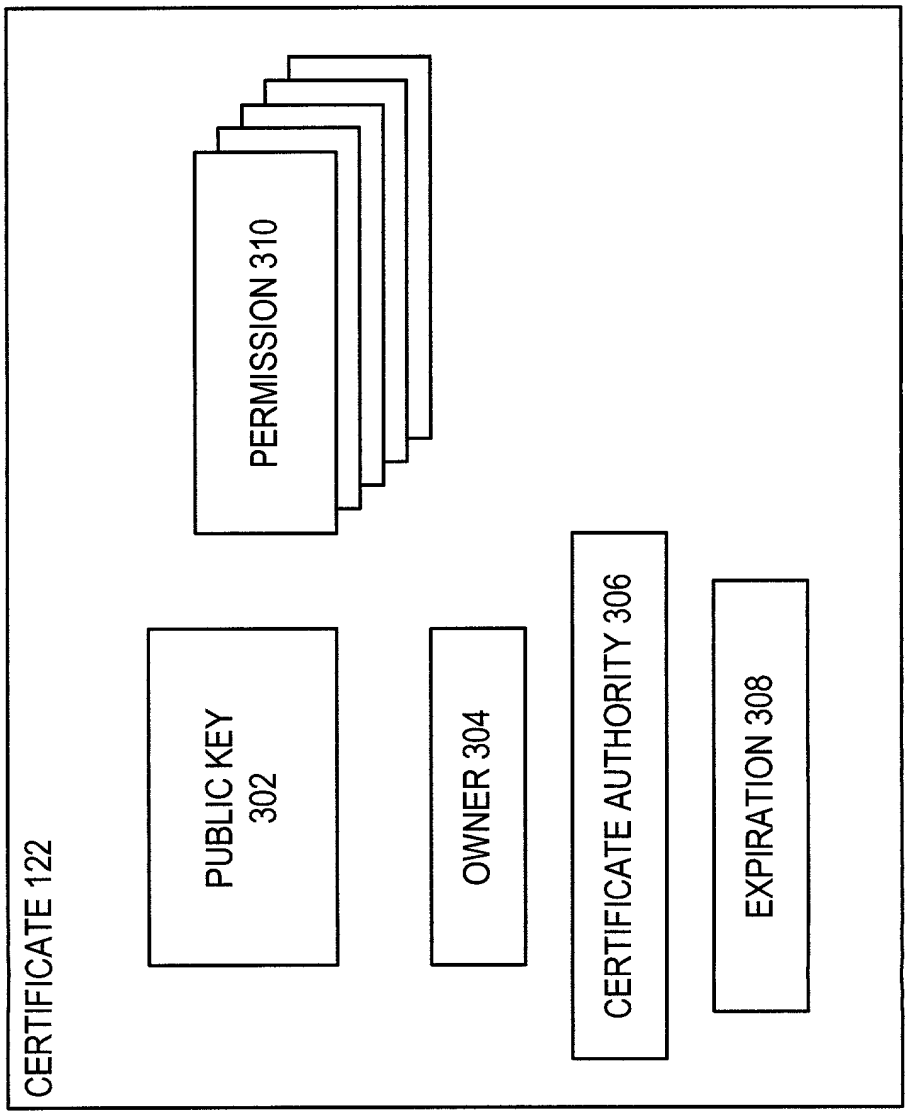
CERTIFICATE 122
PUBLIC KEY 302
PERMISSION 310
OWNER 304
CERTIFICATE AUTHORITY 306
EXPIRATION 308

FIGURE 3

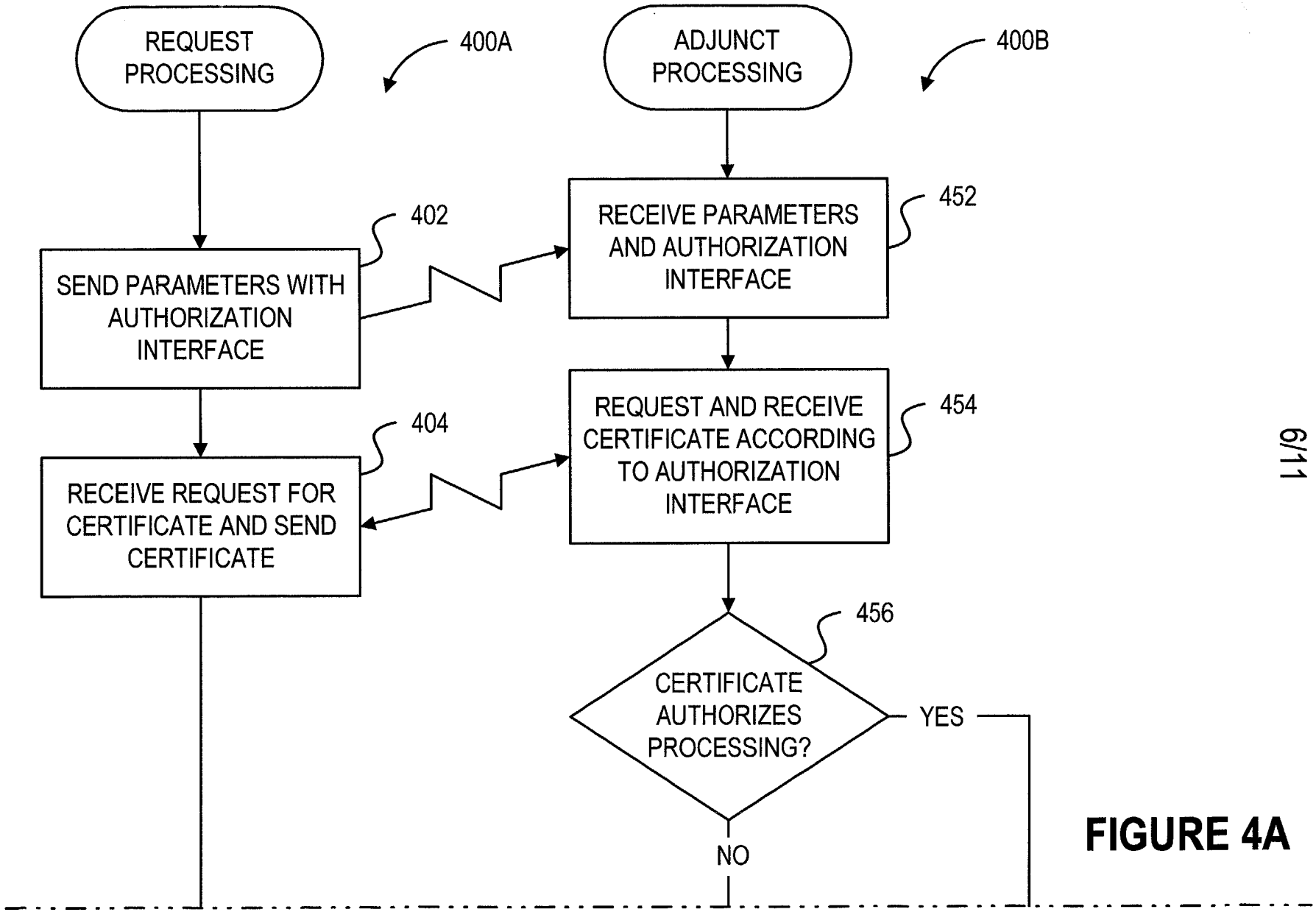
REQUEST PROCESSING
400A
ADJUNCT PROCESSING
400B
402
SEND PARAMETERS WITH AUTHORIZATION INTERFACE
RECEIVE PARAMETERS AND AUTHORIZATION INTERFACE
452
404
RECEIVE REQUEST FOR CERTIFICATE AND SEND CERTIFICATE
REQUEST AND RECEIVE CERTIFICATE ACCORDING TO AUTHORIZATION INTERFACE
454
456
CERTIFICATE AUTHORIZES PROCESSING?
YES
NO

FIGURE 4A

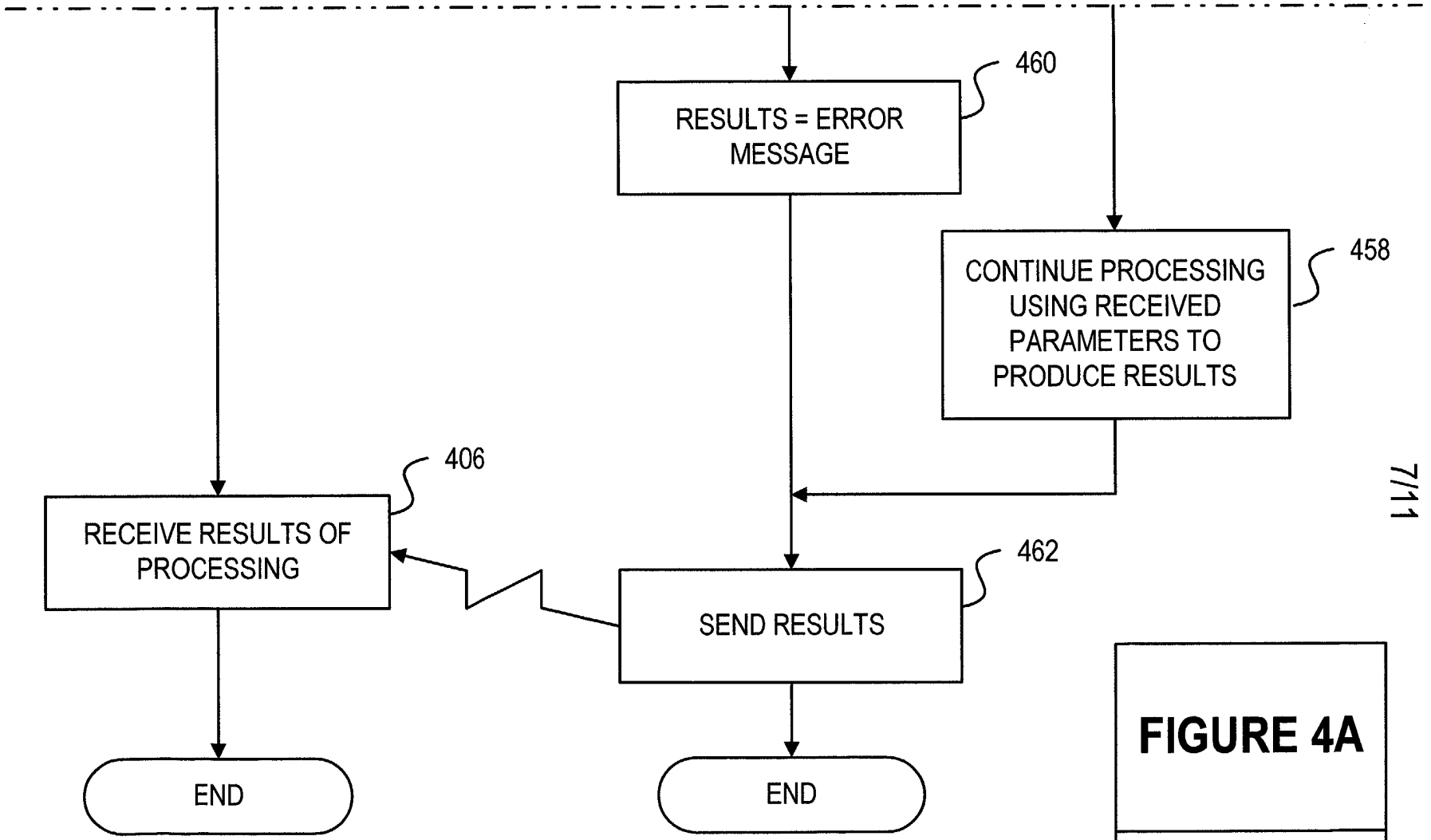

FIGURE 4B

FIGURE 4

FIGURE 4A

FIGURE 4B

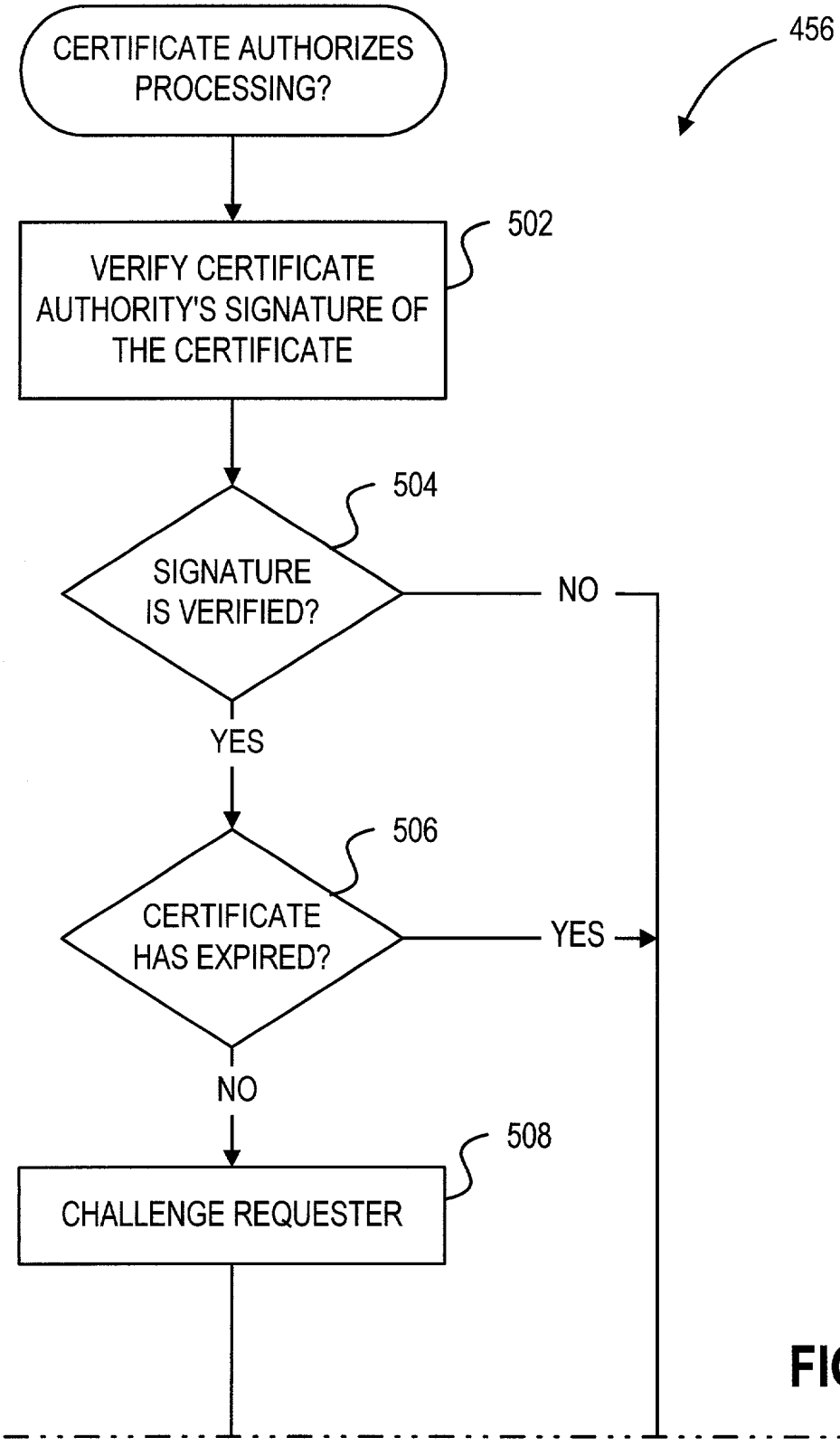
CERTIFICATE AUTHORIZES PROCESSING?
456
VERIFY CERTIFICATE AUTHORITY'S SIGNATURE OF THE CERTIFICATE
502
SIGNATURE IS VERIFIED?
504
NO
YES
CERTIFICATE HAS EXPIRED?
506
YES
NO
CHALLENGE REQUESTER
508

FIGURE 5A

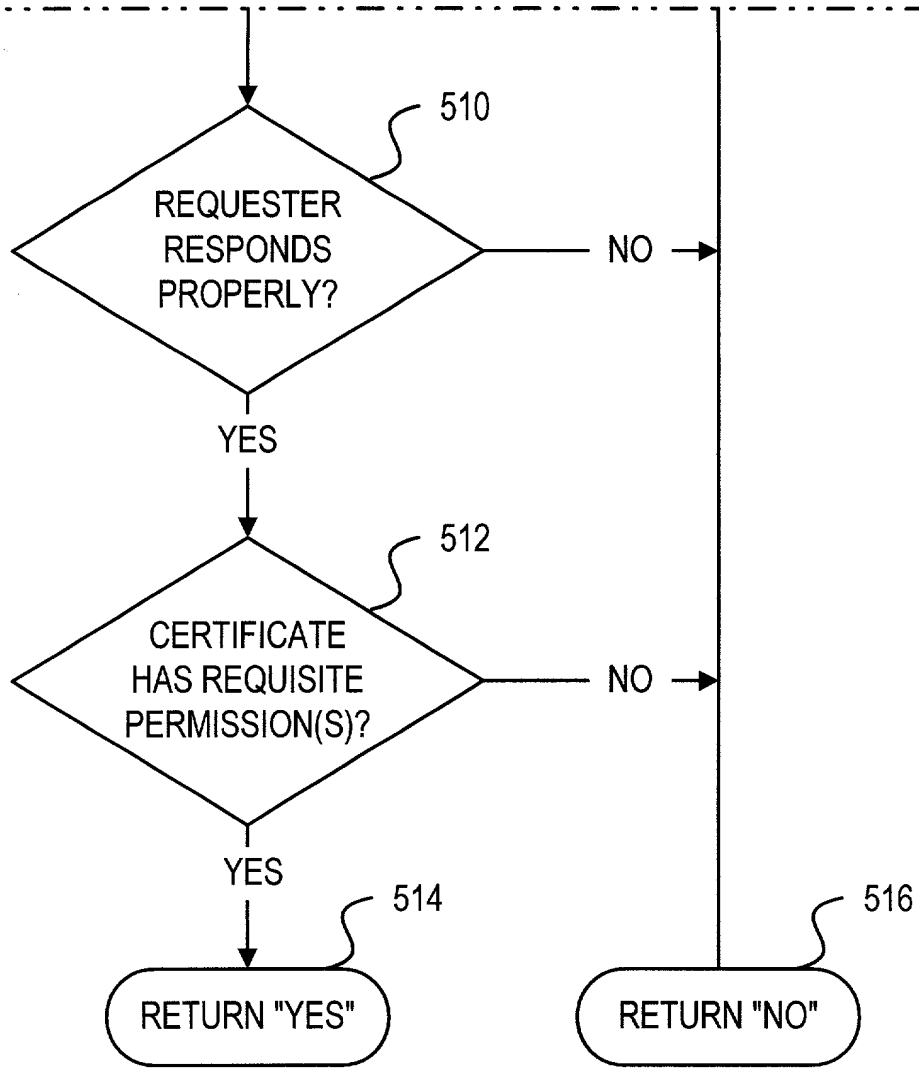

FIGURE 5B

FIGURE 5A

FIGURE 5B

FIGURE 5

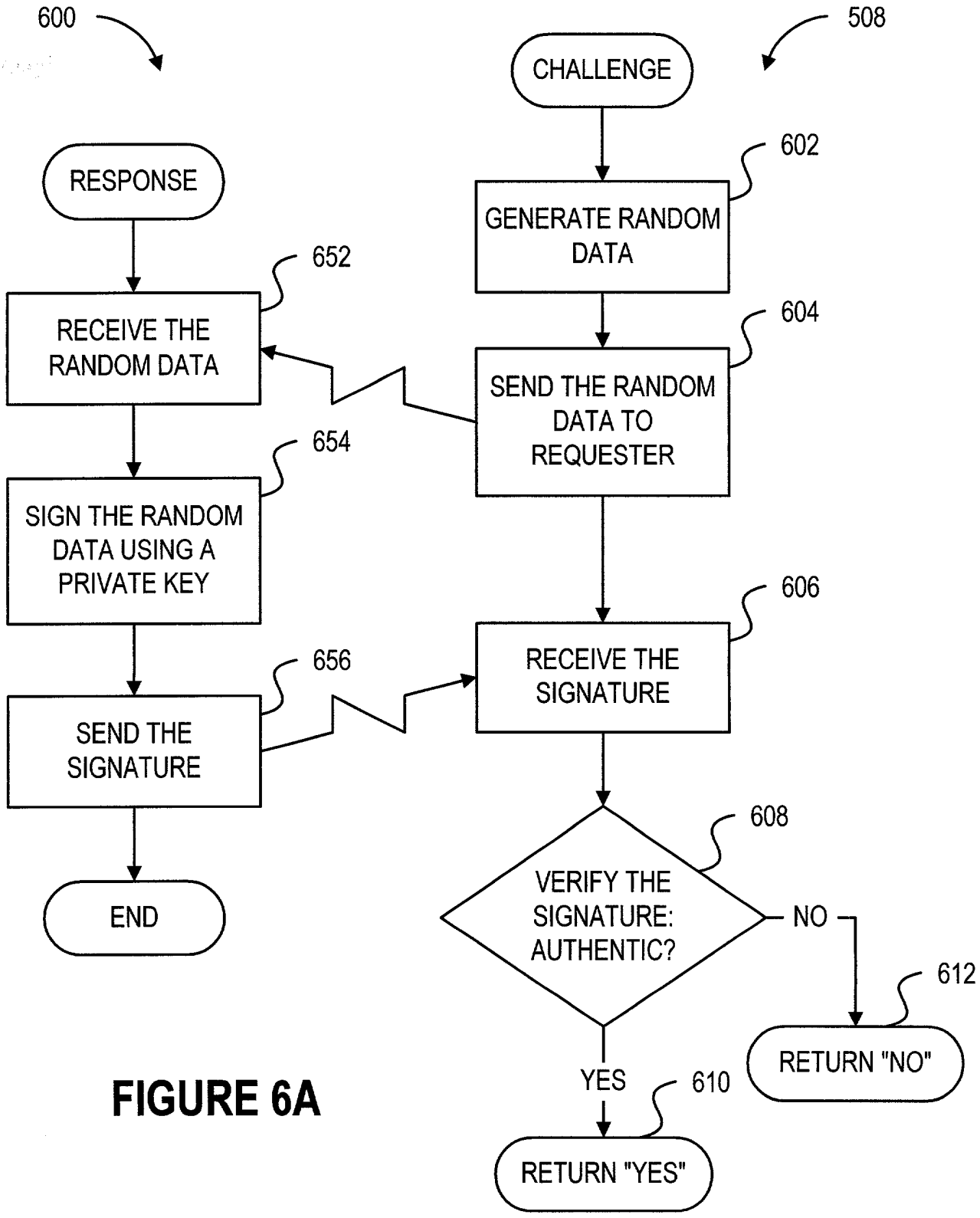
600
508
CHALLENGE
RESPONSE
602
GENERATE RANDOM DATA
652
RECEIVE THE RANDOM DATA
604
SEND THE RANDOM DATA TO REQUESTER
654
SIGN THE RANDOM DATA USING A PRIVATE KEY
606
RECEIVE THE SIGNATURE
656
SEND THE SIGNATURE
608
VERIFY THE SIGNATURE: AUTHENTIC?
NO
612
RETURN "NO"
YES
610
RETURN "YES"
END

FIGURE 6A

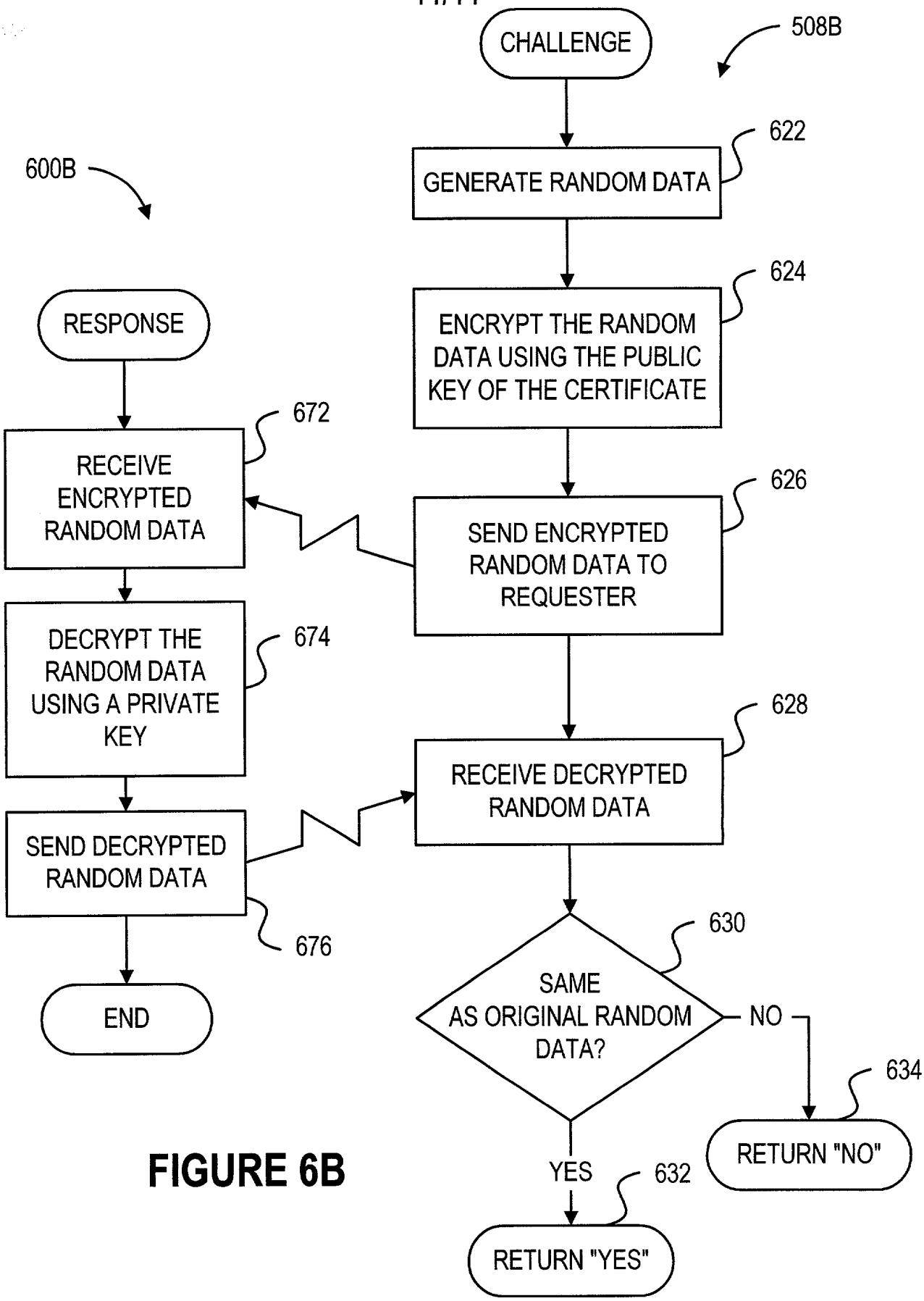
CHALLENGE
508B
600B
622
GENERATE RANDOM DATA
624
ENCRYPT THE RANDOM DATA USING THE PUBLIC KEY OF THE CERTIFICATE
626
SEND ENCRYPTED RANDOM DATA TO REQUESTER
628
RECEIVE DECRYPTED RANDOM DATA
630
SAME AS ORIGINAL RANDOM DATA?
NO
634
RETURN "NO"
YES
632
RETURN "YES"
RESPONSE
672
RECEIVE ENCRYPTED RANDOM DATA
674
DECRYPT THE RANDOM DATA USING A PRIVATE KEY
676
SEND DECRYPTED RANDOM DATA
END

FIGURE 6B